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ABSTRACT

This paper reviews current developments in the field of emergent literacy (the study of reading and writing behaviors that develop into conventional literacy). The review includes studies that look at preschoolers' emerging literacy in homes, day-care environments, and kindergartens and that focus on children's development of literacy knowledge and processes through holistic literacy events (storybook reading, play, etc.). Findings suggest the need for a theoretical model to test the complex cognitive, social, and cultural explanations for emergent literacy. There is a need to explain individual differences, to design early reading instruction, and to decide what, when, and whether to provide it. In order to develop and expand research and knowledge about emerging literacy, the paper recommends defining literacy more broadly to include linguistic and nonlinguistic communication. It also recommends changes in research methodology: (1) researchers can no longer generalize findings to all students but must examine a wider range of social, political, economic, and cultural understandings of literacy; and (2) researchers must move away from concepts like high vs. low and discover the strengths, factors of resilience, and ways in which students from underrepresented populations can be successful in school. Contains approximately 200 references (Author/RS)

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Emergent Literacy

A Polyphony of Perspectives

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CIERA Inquiry 1: Readers and Texts
What are the characteristics that currently define emergent literacy?
How should researchers approach emerging literacy in new studies?

In this paper, Yaden et al. review current developments in the field of emergent literacy (the study of reading and writing behaviors that develop into conventional literacy). The review includes studies that look at preschoolers' emerging literacy in homes, day-care environments, and kindergartens and that focus on children's development of literacy knowledge and processes through holistic literacy events (storybook reading, play, etc.). Their overview of the literature convinces the authors of the need for a theoretical model to test the complex cognitive, social, and cultural explanations for emergent literacy. There is a need to explain individual differences, to design early reading instruction, and to decide what, when, and whether to provide it.

In order to develop and expand research and knowledge about emerging literacy, the authors recommend defining literacy more broadly to include linguistic and nonlinguistic communication. They also recommend changes in research methodology: (a) Researchers can no longer generalize findings to all students, but must examine a wider range of social, political, economic, and cultural understandings of literacy; and (b) researchers must move away from concepts like high vs. low and discover the strengths, factors of resilience, and ways in which students from underrepresented populations can be successful in school.

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Emergent Literacy: A Polyphony of Perspectives

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To those outside the field of education, it must seem like an unnecessary splitting of hairs to debate whether young children's first encounters with print should be called *prereading*, *reading readiness*, *emergent literacy*, or *early literacy*. However, our view from within the field suggests that shifting terminology reflects more than the current era's political correctness. Instead, when new terms take hold, we can usually also identify significant shifts in theory, research, and educational practice. The increasing use of the term *emergent literacy*, beginning in the 1980s, reflects such a shift. As Teale and Sulzby (1986) noted in the introduction to their influential volume *Emergent Literacy: Writing and Reading*, the adoption of this new term signaled a break with the theoretical concept of *reading readiness*, particularly with the notions that young children need to be taught a series of prerequisite skills prior to reading, and that writing should be delayed until children are reading conventionally. Though there was by no means unanimous agreement among researchers on the nature of literacy-learning processes, there was general excitement in the field concerning the possibility of uncovering the planfulness behind young children's unconventional scribbles and their early attempts at reading.

Further, there was intense interest in looking at the continuities between early literacy behaviors and conventional reading and writing. "These behaviors and knowledges are not pre-anything," Teale and Sulzby (1986) wrote. "It is not reasonable to point to a time in a child's life when literacy begins. Rather . . . we see children in the process of becoming literate, as the term emergent indicates" (p. xix). Discontinuities between adults' and children's literacy behaviors were recognized, but within a developmental frame that highlighted children's active construction of increasingly more sophisticated and conventional literacy strategies.

Historically, then, the term *emergent literacy* can be seen as implying a broad theoretical stance about literacy learning (developmental and constructivist), an age group (birth to age 5–6), and a focus on informal learning in holistic activities at home, preschool, or kindergarten. While this view of emergent literacy is still important in the field, we find, at the time of this review, that researchers are less unified in their perspectives and approaches to studying early literacy learning. Perhaps not surprisingly, since the publication of Sulzby and Teale (1991) nearly a decade ago, both the term *emergent literacy* and those using it have come to represent a broad spectrum of ontological, epistemological, and methodological stances (see Crawford, 1995; Hiebert & Raphael, 1998; Whitehurst & Lonigan, 1998 for recent comparisons).

Faced with this diversity, we have debated the various criteria that we might use to make decisions about whether a study should be included in this report. As we have reviewed the literature and talked informally with colleagues and teachers in the field, we find that age level remains a crucial defining characteristic of emergent literacy research (cf. Sulzby, 1991). When educators write or talk about emergent literacy, they are most often referring to children from birth through kindergarten. A second assumption is that emergent literacy research somehow tracks children's literacy knowledge and processes as they move from unconventional to conventional literacy during holistic literacy events such as storybook reading or play.

Thus, in this report, we have used the characteristics of age and research focus to guide (though not strictly limit) our choice of studies to be reviewed. As we have selected studies, we have generally adhered to earlier definitions (cf. Sulzby, 1991; Sulzby & Teale, 1991; Teale, 1987; Teale & Sulzby, 1986) and more recent ones (see McGee & Purcell-Gates, 1997) that suggest the importance of focusing on the "unconventionality" of children's early literacy behaviors and their development in informal settings at home and at school prior to beginning formal literacy instruction. For example, we share the view of McGee and Purcell-Gates (1997, p. 312) that systematic training in phoneme awareness tasks during the preschool years does not constitute the study of "emergent" literacy behaviors, nor do studies during the primary grades where formal literacy instruction and/or interventions are introduced and conducted quasi-experimentally. The following review, then, is primarily restricted to research with preschool children in either home, day-care, or kindergarten environments where systematic and explicit attempts to teach the children specific "skills" thought necessary for reading and writing were not taking place.

Constructing a Framework for the Review

Developing an Organizational Scheme

In order to get a sense of the structure we might employ in describing our research pool, we asked several questions during the reading of each article. For example, what is the purpose of the research? What are the research questions asked? What is the theory claimed? Who are the researched? What instruments are used and how? What is the research design? What is the nature of the data and how is it treated? What actually gets reported? What is

concluded? As a result of this analysis, we decided that the most manageable way to present the last decade's research in emergent literacy was to organize the major sections first by the field or domain in which research has been most frequently conducted, and secondly, to differentiate within fields (using subheadings) by specific research focus. Hence, the following review shares some similarity with Sulzby & Teale (1991) in that storybook reading, emergent writing, home literacy influences, and metalinguistic awareness remain major areas of research activity in emergent literacy over the last decade. We also have devoted another major section to the effects of sociodramatic play upon emergent literacy since research inquiry in this area has dramatically intensified during the last 10 years. Finally, in regard to major divisions, we have chosen to highlight studies of comprehensive emergent literacy programs, as well as early literacy research with children designated as having special learning needs, since investigations in these areas have continued to grow in number.

In addition to the "content" divisions discussed above, we also have chosen to add a third dimension of differentiation in the narrative itself that we believe distinguishes the purpose (conscious or otherwise) of the research epistemologically. Therefore, we have described the research in each section as either being *outcome-based*, *process-oriented*, or *developmental* in nature. These distinctions are discussed briefly in the next section.

Epistemological Perspectives

The three categories mentioned above represented to us reasonably clear epistemological (as opposed to more narrow methodological) distinctions in the body of emergent literacy research that can further be placed within major groupings of either positivist or postpositivist inquiry (see Cunningham & Fitzgerald, 1996, for a comprehensive treatment of epistemologies in reading research; see also Denzin & Lincoln, 1994).

In the present chapter, we have described as *outcome-based* investigations that favor a positivist orientation and frame the constructs of literacy as more "componential"—able to be stably indexed and communicated pedagogically. The purpose of such research is primarily to verify relations between emergent literacy variables and those considered more representative of conventional literacy, and these inquiries are usually conducted according to quasi-experimental design criteria.

On the other hand, studies that we viewed as representing postpositivist assumptions fell into two groups. Research which we have deemed more *process-oriented* tends to adhere more to qualitative or interpretivist principles (Erickson, 1990). Investigators pursuing these types of studies emphasize the simultaneity of inputs into the child's literacy experience and tend to use terms like *transaction*, *reorganization*, and *mediation* to describe the relation between the many multifaceted layers of sociocultural and cognitive processes thought to be involved in the growth of reading and writing in young children.

Our final category, *developmental* research, also reflects interpretivist assumptions, but emphasizes the moment-by-moment, evolutionary, systemic nature of literacy growth, unlike the descriptions of earlier developmentally oriented research in reading readiness and early literacy which tended to focus on the sequential development of discrete stages from a positivist perspective. As opposed to step- or stage-like literacy growth, we

have characterized this movement as more *homeorhetic* (see Piaget, 1985)—in other words, being a somewhat "stabilized flow" (p. 4), increasing with spurts and hesitations rather than uniformity (cf. also definitions of *punctuated equilibrium*, as in Gould and Eldredge, 1993).

Storybook Reading

Overview

While storybook reading has continued to be a major area of research over the last decade, questions about its efficacy for later literacy achievement have increasingly arisen. Two recent widely quoted reviews of the effects of joint storybook reading upon subsequent reading achievement illustrate the current tension in the field regarding this once highly acclaimed practice. For example, after conducting a quantitative meta-analysis of 31 experimental studies of storybook reading over three decades, Bus, van IJzendoorn, and Pellegrini (1995) asserted that "book reading is as strong a predictor of reading achievement as phoneme awareness" (p. 17). On the other hand, Scarborough and Dobrich (1994), having reviewed many of the same studies, concluded that "for now we think some parents would be reassured to know that there is no clear indication that literacy development depends crucially on shared reading experiences in the preschool years" (p. 295). Interestingly, *both* teams of researchers reported that storybook reading between parents and preschool children accounted for 8% of the variance of subsequent reading measures. Perhaps it is because of this existing tension that we notice a growing trend in the current storybook reading literature toward outcome-based, quasi-experimental research rather than the descriptive, qualitative inquiry that has generally characterized studies reviewed in the past.

Assessing the Language and Literacy Outcomes of Storybook Reading

Most of the studies in this subsection employ experimental interventions using some variation of a shared or big book treatment. For example, Mautte (1990) found that repeated big book sessions weekly over five months produced significant differences in the language development between experimental and control groups of 66 four-year-old children deemed at risk. Similarly, Valdez-Menchaca and Whitehurst (1992) found differences between experimental and control groups of 20 low-income, Spanish-speaking two-year-olds on a language performance measure when comparing "dialogic," or interactive, storybook reading to traditional readiness instruction. In a further series of studies by Whitehurst and colleagues (Arnold, Lonigan, Whitehurst, & Epstein, 1994; Whitehurst, Arnold, et al., 1994; Whitehurst, Epstein, et al., 1994), groups of two- to four-year-old children read to "dialogically" by both their preschool teachers and their mothers significantly improved their scores on language, print concepts, and writing measures over their peers who were read to regularly but not engaged actively during the reading.

In one of the longest series of experimental studies conducted regarding the effect of shared book reading, Phillips, Norris, and Mason (1996) have followed groups of Canadian kindergartners initially exposed in 1988 to a reading intervention program called *Little Books* (McCormick & Mason, 1990).

Phillips et al. reported that the treatment groups' early literacy knowledge growth during their year of kindergarten was responsible for significant performance advantages over control groups in reading achievement throughout grades 1–4. In another set of planned interventions, Feitelson and colleagues (Feitelson, Goldstein, Iraqi, & Share, 1993; Rosenhouse, Feitelson, Kita, & Goldstein, 1997) have experimentally demonstrated in two studies that a six-month intervention of daily "interactive reading" of storybooks in either Arabic or Hebrew to kindergartners and first graders produced significant performance differences over control groups on measures of listening comprehension, picture-storytelling, decoding, and language use.

Other experimental investigations of storybook reading documenting either language or literacy outcomes include Morrow's (1989) finding that once-a-week story reading over 11 weeks with small groups of low-income children was more effective than traditional readiness activities in increasing their verbal participation, language complexity, and print concepts. Further, Neuman and Soundy (1991) compared "cooperative storybook reading" partnerships among low and high kindergarten achievers with groups engaged in sustained silent reading (SSR) and found that over a six-week period, the children in the partnerships produced more story elements in retellings based on a picture-sequencing activity. In addition, Otto (1993) compared two groups of kindergartners exposed to a 14-week program of traditional trade storybooks vs. commercially-prepared beginning readers and reported that children in the latter group were less able to interact with the complex text of traditional storybooks and scored at a lower level on Sulzby's (1985) emergent reading scale. Thus, despite disagreements as to "effect size," experimental investigations of storybook reading have continued to verify both its short- and long-term positive impact upon language and literacy development. (For an alternative view based upon correlational results, see Meyer, Wardrop, Stahl, & Linn, 1994.)

Adult Storybook Reading Styles

Numerous descriptive and correlational studies (e.g., Dickinson & Keebler, 1989; Teale, Martinez, & Glass, 1989) have suggested that the manner of parents' and teachers' read-alouds differentially impacts children's understanding of literacy. Subsequently, following outcome-based assumptions, several researchers during the last decade have either attempted to experimentally manipulate style variables in order to determine the precise effect of adults' mediation during storybook reading or have used multivariate, correlational methods to determine relationships between adults' and children's behaviors.

In general, these more current studies have continued to find variation in measures of literacy performance and children's interactive, dialogic behaviors which, in turn, can be related to differences in adults' manner of storybook reading. However, in our view, there has been no real convergence of findings upon any particular set of styles, despite statements to the contrary (see Dickinson & Smith, 1994, p. 116). Since the Sulzby and Teale (1991) review, at least a dozen new styles have been identified in the literature by studies using experimental designs (Nielsen, 1993), employing cluster analysis, and other correlational methods (Allison & Watson, 1994; Dickinson & Smith, 1994; Haden, Reese, & Fivush, 1996; Morrow, Rand, & Smith 1995) as well as qualitative, process-oriented techniques (DeTemple & Tabors, 1995; Martinez & Teale, 1993). Given the styles identified in previous research, nearly 20 distinct descriptors of adult storybook reading behaviors have

been introduced in the past two decades (e.g., analytic, co-constructive, collaborators, comprehenders, co-responders, describers, didactic-interactional, directors, gesture-eliciting, informer-monitors, label-eliciting, labeling, literary, nonreaders, performance-oriented, recitation readers, standard active readers, and straight readers).

We believe that the most pressing need for research in this area is to *synthesize* both the extant styles identified and the numerous analytic discourse coding schemes which have been used to generate them. Such a synthesis may help resolve a dispute in this area concerning whether there may indeed be "an overwhelming number of styles" as suggested by Martinez and Teale (1993, p. 197) or, on the other hand, "only a limited set of approaches to reading books typically used by preschool teachers," as concluded by Dickinson and Smith (1994, p. 116).

Gender, Genre, and Individual Differences in Storybook Reading

While research on adult behavior as a major source of variability within storybook reading has grown significantly over past 10 years, several other aspects of the storybook reading experience have also been studied. These studies tend to fall into the process-oriented or developmental categories since their goal is to closely describe the nature of the interaction itself, and rather *infer* (as opposed to *predict*) what the long term effects of these variables upon storyreading might be. The studies that we reviewed in this area had several foci, with the main emphases being upon aspects of text structure, book familiarity due to repeated readings, and individual characteristics of either the parent or child reader.

Text structure and familiarity. Continuing an important line of work in this area (see Pappas, 1991), Pappas (1993) examined the emergent reading of narrative stories and information books by 16 kindergartners over four months and found that children were equally able to negotiate complex text structure differences (e.g., coreferentiality vs. coclassification) between narrative and information books. Additionally, looking at particular types of text format *within* genres that may have a differential effect upon children's responses to storybooks, Yaden, Smolkin, and their colleagues (Smolkin, Yaden, Brown, & Hofius, 1992; Yaden, 1993; Yaden, Smolkin, & MacGillivray, 1993) have found that certain features of alphabet books—in particular, certain types of illustrations and print that has been made "salient" in some way (e.g., speech balloons, labels in pictures, etc.)—change the nature of both children's and parents' responses toward more discussion about the graphic nature of text and conventions of print (see also Greenewald & Kulig, 1995). Finally, extending earlier findings regarding the benefits to children of rereading storybooks, Elster and Walker (1992) discovered that low-income four- and five-year-old children's ability to infer cause/effect relationships and make predictions was significantly enhanced with repeated readings of predictable texts.

Adult/child characteristics. Extending their previous work with middle-income families, Bus and van IJzendoorn (1992, 1995) used discriminant function analysis to find that the level of attachment security between mother and child predicted the frequency of storybook reading in the home, leading the researchers to conclude that read-aloud experiences for children may be heavily dependent upon the parent's own attachment experiences (Bus & van IJzendoorn, 1992, p. 401). Further, Rowe (1994) noted in a year-long ethnography that her own implicit assumptions about what constituted

a literacy event led to both subtle and overt attempts to redefine reading and writing events that the children had taken in another direction.

In related work focusing upon children's behaviors, Martens (1996) described her three-year-old daughter's learning as embedded within multiple meaning systems such as art, movement, play, and oral language. Similarly, in a process-oriented study exploring individual differences in approaches to shared book reading among peers, MacGillivray (1997) identified four *role-sets* (e.g., coworkers, fellow artists, teacher/student, boss/employee) that strongly framed the types of literacy interactions which took place and determined whether literacy knowledge was shared versus used as leverage to dominate.

Emergent Reading

Current investigations into the phenomenon of independent re-enactments of stories by young children generally confirm Sulzby's (1985) earlier suggestions that these reading demonstrations have developmental properties and indicate that children demonstrate knowledge of the written register at an early age (see also Cox, Fang, & Otto, 1997). Continuing research on emergent reading by Sulzby (1994; Sulzby & Zecker, 1991) and other investigators such as Elster (1994, 1995, 1998), McIntyre (1990), and MacGillivray (1997) has also shown that the levels themselves are highly fluid and subject to a number of external influences, including personal and background factors, prior knowledge, cultural contexts, exposure to other texts, and adult storybook reading styles.

Given that the system of emergent reading levels identified by Sulzby (1985, 1994) was one of the few analytic systems available for assessing comprehension prior to word reading (E. Sulzby, personal communication, April 25, 1999), we believe that the above studies provide important information for researchers to consider when using those levels as outcome measures to determine various aspects of literacy growth (cf. Allison & Watson, 1994).

Storybook Reading and the Deaf

Studies of storybook reading with deaf children have encompassed a range of methodological approaches and have, in many cases, focused on comparisons between deaf preschoolers and their hearing counterparts regarding parental reading strategies, children's responses, and other benefits accrued by children during storybook reading under normal conditions. In this particular literature, we noted a discrepancy between those studies that investigated only parents' behaviors during storybook reading (e.g., Lartz, 1993; Lartz & McCollum, 1990) and those investigating children's actual responses (see Gillespie & Twardosz, 1997; Williams, 1994; Williams & McLean, 1997). The latter investigations indicate that deaf and hard-of-hearing preschool children are clearly capable of exhibiting responses characteristic of their hearing peers when engaged in dialogic, interactive reading during storybook reading sessions. Indeed, the finding that parents simplify their reading style to accommodate their children's perceived language delay stands in contrast to the observation that deaf children are capable of understanding but are not given as many chances to prove it.

Emergent Literacy and Sociodramatic Play

Overview

The play-literacy connection has been one of the most heavily researched areas of early literacy learning and instruction in the last decade. While other types of play exist, dramatic play—also called *symbolic, sociodramatic, pretend, imaginative,* or *make-believe* play—has been of most interest to literacy researchers. A central characteristic of this type of play is that children use make-believe transformations of objects and their own identities to act out scripts that they invent (Christie, 1991). While seminal psychological studies in some lines of play-literacy research were published in the mid to late 1980s, the refinement of this work and its extension by educators into additional areas represents a new focus for early literacy research in the 1990s.

Global Links Between Dramatic Play and Literacy Learning

Though quite different, Piaget's (1962) and Vygotsky's (1978) theories concerning the role of dramatic play in cognitive development have provided important impetuses for research on the play-literacy connection (Pellegrini & Galda, 1993). This line of work is based on the general premise that dramatic play is an arena for developing general representational skills that are eventually applied in other domains, including reading and writing (Pellegrini & Galda, 1991). Outcome-based research designs have involved correlating play measures at Time 1 with measures of emergent reading and writing at Time 2 to establish which aspects of children's dramatic play predicted later reading and writing.

In general, this research offers a positive view of play as providing opportunities to build important cognitive and linguistic skills needed by emergent readers and writers. It also suggests that different aspects of play may be important in emergent reading and writing. Both correlational studies (Dickinson & Beals, 1994; Pellegrini & Galda, 1991) and experimental studies (Pellegrini & Galda, 1982; Silvern, Williamson, & Waters, 1983) have found that metaplay (i.e., oral language where children talk with peers about play) predicts later reading performance, while symbolic transformations are the best predictor of emergent writing (Pellegrini & Galda, 1991).

It should be noted here that, by their choice of measures, these studies primarily assess children's metalinguistic skills and their movement toward conventional decoding and writing. They do not investigate possible relationships between play and children's ability to comprehend texts or produce coherent written products.

Book-Related Play Events: Incorporating Book Themes Into Play

A second group of studies has investigated the direct connections between play and literacy that occur when children incorporate book plots, themes, characters, or information into their play scripts. Outcome-based studies have usually experimentally tested the effects of one or more types of play training on measures of story comprehension—most often immediate and delayed retellings of stories or multiple-choice recall tests. In general, the premise behind these studies has been that dramatic story re-enactments provide opportunities for mental reconstructions of story events and the development of story schemas, both of which are posited to increase story comprehension (Williamson & Silvern, 1991).

Christie's review (1991) of the results of early play-training research concludes that these interventions have facilitative effects on a variety of literacy-related variables such as story production and comprehension. More recently, researchers have attempted to increase their understanding of the mechanism by which these results were obtained by designing experimental studies to explore the effect of different types of adult interventions and developmental changes in the relation between play and comprehension.

Effects of adult intervention. With regard to adult intervention, results indicate that adult assistance is generally helpful in story re-enactment tasks, whether adult roles are directive or facilitative (Pellegrini, 1984; Williamson & Silvern, 1991). Second, children may not need intensive adult help to engage in valuable story-related play (Pellegrini & Galda, 1993)—especially with familiar stories. In child-directed play settings, adult intervention may be less positive, and may in fact inhibit children's use of elaborated language (Pellegrini & Galda, 1993). Evidently, when adults are present, they do most of the work, requiring children to engage in less negotiation with peers.

Developmental Patterns. Developmental studies suggest that play training may be differentially effective for children of different ages. Pellegrini and Galda's (1993) review of these studies concludes that symbolic play had a positive effect on kindergarten and first-grade children's story comprehension but was less facilitative for older primary-grade children. Williamson and Silvern (1991), however, found dramatic story re-enactments to be helpful for older students who were below average comprehenders. While these results might be interpreted as suggesting that children need chances to talk about language rather than to play, Williamson and Silvern (1991) note that children must be engaged in play to produce talk about play. Further, it seems that particular features of dramatic play (such as the presence of peers who have friendship relationships—Pellegrini, Galda, & Flor, in press) increase the likelihood that children will use the elaborated, cohesive language and metalinguistic verbs valued in school talk.

Range of play behaviors. More recent process-oriented studies have widened the range of story-related play studied. Building on informal observations of children's spontaneous book-to-play connections, several researchers have conducted long-term, naturalistic observations of young children's play in literacy-rich home and preschool settings. Findings indicate that children initiated book-related play not only in dramatic play events (Goodman, 1990; Rowe, 1998; Wolf & Heath, 1992) but also in other social contexts including informal book-reading events with peers and adults (Fassler, 1998; Rowe, 1998, in press; Wolf & Heath, 1992) and negotiations of social rules with parents (Wolf & Heath, 1992). Comprehension of story events was only one of several observed purposes for children's spontaneous book-related play. Children also used play for making personal responses to books, participating in book-reading events, creating a lived-through experience of the book, and furthering personal inquiries into questions about the world (Rowe, 1998, in press; Wolf & Heath, 1992). However, since most of the participants in the naturalistic studies reviewed here were from mainstream homes with many book experiences, future studies need to address questions concerning variation in book-related play across social and cultural contexts (see Martinez, Cheyney, & Teale, 1991).

Literacy-Enriched Play Centers: Incorporating Literate Roles in Dramatic Play

Naturalistic observations (Neuman & Roskos, 1991) of children's spontaneous dramatic play have indicated that children often incorporate literate behaviors as part of the play scripts they invent. However, as Morrow (1991) found in her study of 35 middle-class kindergarten classrooms, many school settings in the early 90s were not well-designed to facilitate literacy behaviors. In her sample, few literacy materials were easily available for children's use, and teachers did little to promote voluntary literacy activities during play. Taken together, these findings evoked considerable interest on the part of educational researchers in developing literacy-enriched play centers by adding general literacy materials such as pencils and paper, as well as theme-related literacy props (e.g. stamps, envelopes, appointment books, and phone books for an "office" play center; see also Neuman & Roskos, 1990, 1991, 1992). A major premise underlying this work is that play interventions can have a direct impact on written language development by providing opportunities for children to read and write in contextualized situations (Hall, 1991; Christie, 1991).

While the designs of studies investigating literacy-enriched play centers have differed (see Christie's 1991 review for an extensive discussion of the methodology used), as a group they address four major questions. First, what patterns of child and adult interactions are observed in literacy-enriched play centers? Second, do these centers increase the amount of literacy-related play? Third, does adult mediation impact the amount and type of play? And fourth, do literacy-enriched play centers affect children's performance on measures of emergent reading and writing?

Child and adult interaction patterns. Process-oriented studies of literacy-enriched play centers demonstrate that there is considerable variation in the nature of play (Stone & Christie, 1996; Neuman & Roskos, 1993) as themes, materials, and adult intervention change. Play centers are not a single consistent intervention day after day, but instead are complex ecological niches where the context of play activity is socially constructed by participants in face-to-face interaction. Neuman and Roskos' (1997) analyses suggest that these play centers provide support for literacy learning through (a) the presence of people who share expertise and provide assistance, (b) feedback from others, (c) access to literacy tools and related supplies, (d) multiple options for activity, and (e) problem-solving situations.

Naturalistic observation of children's play in literacy-enriched play centers indicate that children display considerable knowledge of literacy functions and strategies (Neuman & Roskos, 1993, 1997; Schrader, 1991; Stone & Christie, 1996). Children's use of functional knowledge and strategies is impacted, however, by factors such as age (Stone & Christie, 1996), the familiarity and complexity of the literacy routines being played out (Neuman & Roskos, 1997), and the specific roles taken by peers (Stone & Christie, 1996; Vukelich, 1993) and adults (Neuman & Roskos, 1993).

Researchers have described several different facets of adults' interactions during play, including their social roles in play events (Roskos & Neuman, 1993) and the interactive strategies used to support and extend children's literacy activities (Neuman & Roskos, 1993). Findings show that adults adopt multiple roles in the course of these events rather than operating within a single interaction style (Roskos & Neuman, 1993; Schrader, 1991). Effective mediation appears to require adults to match their strategies to the child's

intentions and knowledge (Schrader, 1991) and to phase in and out of more and less directive roles (Roskos & Neuman, 1993). Though not analyzed directly in any of these studies, there is some indication that there is cultural variation in the language and actions adults use to operationalize intervention strategies (Neuman & Roskos, 1993). Though there has been less attention paid to peer interactions, initial studies (Neuman & Roskos, 1991; Stone & Christie, 1996) suggest that peers also help each other with such tasks as naming literate objects and negotiating literate roles and routines.

Frequency of literacy-related play. In addition to process-oriented investigations of adult and child behaviors, there has been considerable attention paid in outcome-oriented studies to determining whether the addition of themed literacy materials actually increases the amount of literacy-related play. The answer to this question is a resounding "Yes!" The inclusion of literacy-enriched play centers increases—often dramatically—the amount of literacy-related activities in which children engage during play (Christie & Enz, 1992; Morrow & Rand, 1991; Neuman & Roskos, 1991, 1992, 1993; Vukelich, 1991b). Literacy-related play in intervention groups has been found to be more complex than that produced by control subjects, incorporate more explicit oral communication, use literacy objects in more functional ways, and produce more object transformations (Neuman & Roskos, 1992). These effects appear to be sustained over time after the novelty of new materials wear off (Neuman & Roskos, 1992, 1993). The types of literacy materials inserted in the play centers also appear to impact patterns of play (Morrow & Rand, 1991).

Effects of adult mediation. The answer to the third question concerning whether adult mediation increases the amount of literacy-related play is also a clear "Yes." When "materials only" and "materials plus adult scaffolding" interventions were compared, children engaged in significantly more literacy-related play when adults were present (Morrow & Rand, 1991; Vukelich 1991a). Christie and Enz (1992) suggest that, in addition to the direct effects of adult attempts to encourage literacy-related play, adult presence may have the indirect effect of maintaining children's interest in dramatic play.

Effects on measures of emergent reading. The fourth question concerning the impact of literacy-enriched play centers on measures of emergent reading and writing is less easily answered. To date, the four studies investigating the question have obtained mixed results. While Neuman and Roskos (1990) found that a literacy-enriched play center intervention increased children's print awareness scores, other researchers (Christie & Enz, 1992; Vukelich, 1991b) have failed to find significant increases. When children's understanding of the functions of writing were measured, Vukelich (1991b) found significant increases for one treatment group, while Neuman and Roskos (1993) found none. In the latter study, however, the researchers found significantly higher scores on measures of environmental print reading when children played in literacy-enriched play centers where adults offered suggestions and took roles in the play. It is likely that these contradictory findings are, in part, the result of the kinds of treatment groups that were compared. Several of these studies were designed without a no-treatment control group, making it difficult to determine whether each of the alternate treatments was equally effective or none of the treatments impacted literacy

learning in important ways. More controlled research is needed to address this question.

Emergent Writing

Research on emergent writing has a relatively short history. The field was launched in the early 1970s by several influential studies (e.g., Clay, 1975; Read, 1975) that focused attention on the planfulness of children's initial, and mostly unconventional, attempts at writing. During the 1980s, the volume of emergent writing research increased substantially, with researchers focusing on emergent writing forms and the developmental sequences leading children from scribbling to conventional writing (Sulzby & Teale, 1991). Interestingly, in the 1990s, there has been a decrease in the amount of research on emergent writing as compared with the previous decade. We expect that this trend reflects the fact that researchers began the 1990s with a relatively well-developed research base describing children's emergent writing behaviors. While some researchers continue to advance the field by focusing on cognitive aspects of children's writing processes, others have adopted theoretical stances that introduce intriguing new questions about the influence of social interaction, culturally-based literacy practices, and the integration of multiple sign systems.

Theoretical Issues

Our review identified five theoretical issues related to children's literacy learning processes that have generated a good deal of discussion over the last decade. The first question is whether emergent writing development is best viewed as a psychogenetic progression through a series of stages (Besse, 1996) or the social construction of literacy hypotheses based on the child's personal experiences (Sulzby, 1996; Rowe, 1994). Both explanations continue to be used by researchers to explain patterns in children's emergent writing.

A second theoretical question that continues to be of interest is the relation between writing and oral language. While there has been a tendency to analyze emergent writing as an independent phenomenon, Pontecorvo and Morani (1996) caution against simple dichotomies between oral and written language. Their work with French children suggests that writing emerges from oral practices of the child's culture—a hypothesis also advanced by researchers working with American children (e.g., Cox, Fang, & Otto, 1997; Dyson, 1993; Sulzby, 1996).

A third theoretical question considers the relation between emergent writing and reading. Of particular interest in outcome-based studies have been questions concerning the role of invented spelling in beginning reading. Richgels (1995b), for example, used a causal comparative design to demonstrate that good invented spellers learned to read phonetically simplified words better than poor invented spellers. We take studies of this sort as another indicator of the maturing of the field because they replace the implicit assumption that emergent writing supports literacy learning with a theoretical understanding of the ways that emergent writing interacts with other aspects of literacy learning.

The fourth theoretical question concerns the sociocognitive and sociocultural dimensions of children's literacy learning. These questions have experienced the greatest increase in attention from process-oriented researchers. Researchers working within a sociocognitive framework have moved beyond the individual to examine the role other people play in children's emergent writing. Researchers working within a sociocultural framework have examined how emergent writing grows from the cultural practices of classrooms and homes. This work has challenged the notion that there is a single "literacy" or one universal pattern of literacy learning. Further, this work has broadened the focus of emergent literacy research to include the power relationships that impact how children's writing is valued in different contexts.

A final theoretical issue receiving increased attention in process-oriented research is the relation between emergent writing and other sign systems such as drawing, constructive art, and drama. Several researchers (e.g., Dyson, 1995; Gallas, 1994; Leland & Harste, 1994; Rowe, 1994, 1998) have argued that emergent literacy should be broadly conceptualized as the ways children make meaning in a variety of sign systems. While the multimodal nature of emergent writing is not a new area of study, Kress (1997) has argued that it is now more important because of the advent of new communication technologies where written language is less central—a point underscored by Labbo's (1996a) description of the multimodal texts generated by emergent writers on the computer.

Forms of Emergent Writing

During the decade covered by this review, researchers have continued to add descriptions of the forms of children's emergent writing to the literature, but at a much slower pace than during the 1970s and 80s. Methodologically, there is a mix of naturalistic and controlled observations, with some researchers recording students' writing during their regular classroom instruction and others observing responses to researcher-designed writing prompts and clinical interviews.

Developmental case studies (Branscombe & Taylor, 1996; Martens, 1996; Olson & Sulzby, 1991; Schickedanz, 1990) focusing on young children's hypotheses for writing words have largely confirmed patterns described earlier by researchers such as Clay (1975) and Sulzby (1989). A number of process-oriented studies have focused on describing sentence and text-level patterns in children's writing more fully. Aspects studied include punctuation (Martens, 1996; Martens & Goodman, 1996), genre of children's texts (Chapman, 1996; Pontecorvo & Morani, 1996), children's use of quoted speech (Sulzby, 1996), and integration of multiple sign systems (Gallas, 1994; Kress, 1997; Rowe, 1994).

Emergent Writing as a Social Event

While many of the studies reviewed in the previous section have acknowledged the role of other people in children's construction of written texts, their focus remains largely on the individual child and his or her text. The studies reviewed in this section focus on the way social interaction impacts emergent writing.

Peer interaction. Several process-oriented studies (Labbo, 1996b; Rowe, 1994; Troyer, 1991) have used naturalistic techniques to describe interactions that occur naturally between peers as they gather in classrooms to write texts of their own choosing. In general, researchers have reported

that peer interactions have provided needed support for writing (Labbo, 1996a; Rowe, 1994; Troyer, 1991). It also appears that interaction patterns vary and are affected by individual factors, such as the child's personal style, age, and familiarity of the task at hand (Zucchermaglio & Scheuer, 1996), and social factors, such as the nature of the task, norms for writing developed in the particular classroom (MacGillivray, 1994), and the particular roles taken by adults and children in the event (Burns & Casbergue, 1992; DeBaryshe, Buell, & Binder, 1996; Power, 1991; Rowe, 1994; Zucchermaglio & Scheuer, 1996).

Social demonstrations. Children's writing processes and strategies also appear to be impacted by the social demonstrations they encounter (Rowe, 1994). Researchers working from a sociocognitive perspective have described the ways that the genre (Ballenger, 1996; Chapman, 1996) and content (Rowe, 1994) of children's texts are affected by the books they read, their observations of other authors in the process of writing, and their interactions with others about their writing. Several process-oriented studies also report that social relationships of friendship and family are major motivators for learning about print and using it (Ballenger, 1996; MacGillivray, 1994; Rowe, 1994).

Social context. Sociocultural studies of emergent writing provide a somewhat different lens for understanding the social nature of emergent writing. They have investigated how classroom interactions and literacy strategies are tied, explicitly or implicitly, to culturally held definitions of literacy, power relationships, and values (MacGillivray & Martinez, 1998; Power, 1991; Purcell-Gates, 1995). Other process-oriented studies have documented how children's literacy knowledge is related to social features of particular classroom events (e.g. , Kantor, Miller, & Fernie, 1992; MacGillivray, 1994). Drawing on a series of naturalistic studies of kindergarten and early primary-grade writers in school settings, Dyson (1992, 1993) concluded that writing is a sociocultural process in that written texts position authors in particular ways in the social life of the classroom, reflect the ways different types of literacy are valued by groups within the classroom, and represent a way of engaging in a particular kind of social dialogue with particular others. Together, these studies highlight the cultural and interactive basis for how children define and use literacy—an observation that helps to explain the variation in emergent literacy patterns reported earlier. Further, these studies raise a number of complex issues concerning societal values and definitions of literacy, clashes of culture between home and school, and differential valuing of the cultural capital children bring to school.

Emergent Literacy and the Home

Overview

In the past decade, there has been more research in homes where traditional literacy activities (for example, storybook reading) rarely occur. Following a trend begun in the 1980s, more research has moved beyond parent surveys and self-reports to include observations within homes, and studies with mixed designs using qualitative and quantitative techniques have been con-

ducted more frequently. Foci vary, but particular attention has been paid to literacy as a complex process. Ever since Heath's (1983) seminal report, simple explanations such as socioeconomic status are no longer acceptable for explaining a child's literacy failure or success (see also Taylor & Dorsey-Gaines, 1988) and research in the last decade has attempted to determine more precisely the factors that ensure a strong literacy foundation (see Purcell-Gates, in press, for a comprehensive review of home literacy).

Parents' Perceptions of Literacy Learning and Practices

The research on parents' perceptions is primarily process-oriented, and the studies we reviewed used different means for gathering data, including observation (Goldenberg, Reese, & Gallimore, 1992), interviews (Fitzgerald, Spiegel, & Cunningham, 1991), focus groups (Neuman, Hagedorn, Celano, & Daly, 1995), and questionnaires (Hiebert & Adams, 1987; Snow, Barnes, Chandler, Goodman, & Hemphill, 1991). In addition, studies attended to parents' perceptions of how literacy is acquired as well as their perceptions of literacy uses and functions in general.

Views on how literacy is used. This latter focus is exemplified in reports from the Baltimore Early Childhood Project (see Baker, Sonnenschein, & Serpell, 1994; Serpell, 1997; Sonnenschein, Brody, & Munsterman, 1996) where three different themes were noted: (a) Literacy is a source of entertainment, (b) literacy is a set of skills to be deliberately cultivated, and (c) literacy is an integral ingredient of everyday life. Further, in a study of Icelandic families, Ronald Taylor (1995) found that leisure was the most observed and reported purpose of reading for both urban and nonurban families, despite differences in the mothers' educational level. Also, Leseman and de Jong (1998) conducted an investigation of urban families with four-year-olds living in the Netherlands and noted that literacy interactions were more related to cultural lifestyle (i.e., Dutch, immigrant Surinamese, and immigrant Turkish) and religious practices than socioeconomic status.

Views on how literacy is acquired. Most of the studies on parents' perceptions of literacy acquisition have reported results by cultural groups without further differentiation in regard to individual ability or other factors. (An exception is Fitzgerald, Spiegel, & Cunningham, 1991, who distinguished parents by "high" and "low" levels of literacy.) Even so, considerable variation has been found both within and across the populations studied.

In an oft-cited study, Goldenberg, Reese, and Gallimore (1992) asserted that most of the Hispanic mothers of their 10 working-class Spanish-speaking kindergartners viewed learning to read as a process that started with learning letters and sounds. Additionally, Anderson's (1995) examination of perceptions of literacy acquisition with three cultural groups in Canada showed that, while most of them supported some tenets of emergent literacy theory, parents differed on critical issues such as whether children "learned to read holistically" (p. 266). Similarly, Neuman et al. (1995) found a range of views on literacy learning within a group of African-American adolescent parents.

The Relationship Between Home Factors and School Achievement

The research on home factors as related to literacy development builds on earlier work (e.g., Taylor & Dorsey-Gaines, 1988) and further documents that economic levels alone do not determine school success or failure. Nonetheless, a wide range in the quantity and nature of literacy practices across socioeconomic groups has been documented (see Beals & DeTemple, 1993;

Purcell-Gates, 1996; Shapiro, 1995). For example, Snow and her colleagues (Snow et al., 1991) in the Home-School Study of Language and Literacy Development found that the type of talk that took place during meal times, particularly talk about things "not immediately present," related positively to the literacy-related language skills of the young children from low socioeconomic areas (cf. also Dickinson & Tabors, 1991). Further, in a multiyear study with only middle-class children, Scarborough, Dobrich, and Hager (1991) showed that preschoolers who became poor readers by second grade had less frequent early literacy-related experiences than those who became better readers. Finally, in another longitudinal study, Smith (1997) measured children's emergent literacy knowledge upon entering preschool and found a strong positive relationship between this knowledge and their reading ability five years later.

Although Smith's (1997) study focused on measuring entering abilities and Scarborough et al. (1991) attended to initial experiences with print, both longitudinal studies offer insight into the difficult process of sorting out the complexities of the impact of early literacy experiences on later achievement. What does seem to be the case, however, is that the more literacy knowledge children bring to school, the better they will do in schools as they are currently conceived.

The Dynamics of Family Literacy Practices

Most studies looking at home literacy practices choose to focus closely on a few families, using process-oriented, case-study methodology. Building on Heath's work (1983), the studies described below offer new insights into the specifics of family life, focusing upon aspects of culture, ethnicity, and gender.

In a widely-cited ethnography, Purcell-Gates (1995) documented the literacy development of an urban Appalachian mother and her son, and stressed the importance of one's initiation and introduction into the world of print by others. Even print-rich environments provide fewer opportunities for literacy growth if children do not know how to interact with the print-artifacts within them. In other case study research, Mulhern (1997; forthcoming) detailed the life of three Mexican immigrant kindergartners and captured the way children negotiated the various expectations of adults, siblings, and peers during their interactions with print. Like Neuman et al. (1995), Mulhern revealed the diversity within what could be viewed as a homogenous group. Finally, Solsken's (1993) research has situated literacy learning as a continual process of self-definition, arguing that through literate acts young learners also construct identities related to gender and work. In summary, these descriptive studies of children's early navigation of literacy learning offer critical insight into their rich and complex processes of making sense of the world as it is mediated by the world of print and others' attitudes toward using it.

Environmental Print

While Yetta Goodman (1986) has identified the exposure to environmental print as one of the main "roots" of literacy, recent studies—operating with outcome-based assumptions—have been unable to find strong relationships between environmental print recognition and conventional reading ability. In one of the few existing experimental studies, for example, Stahl and Murray (1993) found that children's exposure to logos did not facilitate their word recognition ability. Further, a study by Shaffer and McNinch (1995) highlighted the variation in ability between academically at-risk preschool

children and their academically advantaged peers to give meaningful responses to logographic stimuli. Additionally, Purcell-Gates (1996) has written that "children are better served by observing and experiencing the reading and writing of connected discourse decontextualized from physical (such as signs and containers) and pictorial contexts" (p. 426) since she discovered an average of less than one instance of actual reading and writing per hour in 20 low-income families.

Metalinguistic Awareness and Emergent Literacy Growth

Overview

In reviewing literature on metalinguistic awareness and early reading ten years ago, Sulzby and Teale (1991) focused exclusively on the development of and instruction in phoneme awareness, partly to draw attention to the important but neglected link between emergent reading and writing and conventional literacy behaviors. Their observations that children can be trained in phoneme awareness prior to formal instruction provided they have a modicum of letter knowledge, and that phoneme awareness is linked to later reading and spelling achievment, have been confirmed repeatedly in research throughout the last decade (see Blachman, in press, for a comprehensive summary). They further alluded to three other issues that have been raised again recently by McGee and Purcell-Gates (1997). First of all, what are the differences, if any, between phoneme awareness that develops informally and that which is instilled by training, and what is the impact of those differences on learning to read and write? A second issue concerns the quality, or perhaps the amount, of knowledge that is needed to exhibit conventional behaviors. And lastly, there is the concern about who profits from training and who does not. Since Blachman (in press) offers thorough coverage of the development of phoneme awareness in particular, we have focused upon the broader aspects of metalinguistic and metacognitive knowledge as well as those studies addressing the issues raised above.

The Emergence of Metalinguistic Awareness Through Storybook Reading

Goodman (1986), in particular, has argued that children both acquire metalanguage terms (e.g., word, letter, story, etc.) as well as conscious awareness about written language through storybook reading events. That children spontaneously talk about aspects of letters, words, and texts during storybook reading has been documented by Yaden and colleagues (Yaden, 1993; Yaden et al., 1993) in process- and developmentally oriented studies using both longitudinal and single-subject designs. This research indicates that metalinguistic awareness about written and spoken language emerges developmentally (cf. Roberts, 1992) from tacit awareness about texts initially focused on elements of meaning to more explicit reflections concerning the conventions of books, and aspects of letters and words themselves. In an experimental study using genre as a treatment variable, Murray, Stahl, and Ivey (1996) demonstrated that children reading alphabet books with accompanying examples of words illustrating the various sounds had significantly higher levels of phoneme awareness than children reading traditional storybooks or alphabet books without accompanying examples. Murray et al.

(1996) pointed out, however, that all groups of children reading different types of alphabet books and storybooks advanced in phoneme awareness and in concepts about print and letter knowledge.

Evidence of Metalinguistic Awareness During Invented Spelling

The work of Richgels and colleagues (Burns & Richgels, 1989; Richgels, 1995a, 1995b; Richgels, Poremba, & McGee, 1996) has done much to differentiate between different types of metalinguistic knowledge and their correlational relations to spelling and later reading achievement. In addition to noting that many 4-year-olds are capable of spelling phonetically, Burns and Richgels (1989) found that, among inventive spellers as a group—all of whom were able to segment words by sounds and had a substantial amount of letter/sound knowledge—only a portion of them could read words proficiently. This calls into question the widely-held view (cf. Share & Stanovich, 1995) that any amount of segmentation ability directly enables word reading ability. Further, Richgels (1995b) also demonstrated that kindergartners with no formal instruction in phoneme awareness who were also classified as good inventive spellers were better able to learn phonetically simplified words than poor inventive spellers, thus strengthening the connection between higher levels of naturally developing spelling ability and later word learning.

Forms of Metalinguistic Awareness During Dictation and Writing Tasks

All of the studies reviewed below posit developmental trends in children's demonstration of both written and oral language awareness. For example, Pontecorvo and Zucchermaglio (1989), hypothesizing that children can engage in decontextualized communication prior to writing, studied six-year-old children's dictation to adults over 18 months and found increases in narrative sophistication, use of connectives and anaphoric references, and pace of dictation (i.e., signaling clause segmentation by pausing for the scribe). Further, in a multivariate, correlational study, Roberts (1992) found that children demonstrated tacit awareness of spoken and written language first, followed by explicit awareness of written forms, and only later reflective knowledge about spoken language.

More recently, in a developmentally oriented study charting the emergence of word segmentation ability in Hebrew and Spanish with groups of preschoolers through second graders, Tolchinsky and Teberosky (1998) found distinct differences between languages. Hebrew children pronounced dramatically more consonants in isolation, while Spanish children engaged in substantially more oral spelling. Although Tolchinsky and Teberosky (1998) concluded that the syllable was the preferred unit of segmentation in both languages, they stressed that any relationship between phonological segmentation and writing must take into account both the orthography and the acoustic properties of the language being learned.

Evidence of Metalinguistic Ability During Classroom Reading and Writing Events

In this final subsection, we review research that attempts to capture children's metalinguistic abilities as they are exhibited in more general classroom settings and observed when youngsters are engaged in a variety of forms of communication with peers and adults. Through an observational study in which children were observed over two years in their classrooms in various reading and writing situations, Dahl (1993) documented five categories of spontaneous (i.e., not in response to questions or probes) metacognitive and metalinguistic statements that children made about aspects of written language, including its form and function and their rule systems for

reading and writing it. Similarly, drawing upon data gathered in primary classrooms comparing whole-language and skills-based instruction (Dahl & Freppon, 1995; Purcell-Gates & Dahl, 1991), McIntyre and Freppon (1994) observed children in both instructional settings using and talking about several dimensions of alphabetic knowledge. Their study, in particular, shows that, despite the specific approach to teaching employed, children experiment with oral and written language forms, take the initiative in learning how to use it even beyond classroom applications, and make judgments about the larger purposes and functions of written language in a social context.

As for the issues raised at the beginning of this section, we discovered no studies which compared the quality of metalinguistic abilities learned informally vs. by direct training, although there are a number of studies examining each group separately. Further, we could not identify a specific level of tacit or conscious metalinguistic awareness beyond the standard descriptions of "good vs. poor," "high vs. low," or "experienced vs. inexperienced" to use as some sort of criterion threshold for determining when there is "enough" metalinguistic knowledge to make a difference in a child's momentum toward conventional literacy. Lastly, the suggestion from the research is that those who benefit from training are those children who already have an incipient foundation of knowledge and experience to build upon, levels of socioeconomic status notwithstanding. The later this foundation is built, the slower the growth.

Emergent Literacy Growth in Children with Special Needs

Within the last ten years, there has been a notable increase in the number of studies examining emergent literacy abilities in children with a variety of learning disabilities, including language impairments and visual and hearing loss. Unfortunately, given the space limitations of this article, it was simply not possible to discuss all of the research we found dealing with emerging literacy in, for example, the variety of children designated as autistic, learning-disabled, or hearing- and visually- impaired (see Craig, 1996; Kavims & Pierce, 1995, for some examples). The general tenor of this body of work suggests that emergent literacy assumptions are particularly applicable in explaining how children with special learning requirements acquire knowledge of reading and writing.

The investigations that we did review more closely examined emergent literacy assumptions and techniques with hearing-impaired and deaf children (Rottenberg & Searfoss, 1992; Williams, 1994), specifically language-impaired children (Kaderavek & Sulzby, 1998, in press; Sulzby & Kaderavek, 1996), and those prenatally exposed to crack cocaine (Barone, 1994, 1997). These studies found that these children grew in literacy knowledge similar to populations of normally developing children. In addition, Barone's (1997) four-year study of children prenatally exposed to crack cocaine has shown that, given equal opportunity in homes and classrooms to actively engage with written materials and literate others, these children are equally capable

of normal learning in school, even excelling in some cases. Also, the findings with hearing-impaired children (see Rottenberg & Searfoss, 1992; Williams, 1994, above)—that early written language learning can proceed normally without extensive oral language support—are important to consider in developing models of early literacy learning (cf., for example, Share & Stanovich, 1995), which have a tendency to assume the primacy of an oral language component.

Comprehensive Emergent Literacy Programs

This final section reviews instructional programs and investigations targeting preschool or kindergarten children that attempt to incorporate all aspects of an emergent literacy program (see Labbo & Teale, 1998, for a comprehensive description of the underpinnings of an emergent literacy curriculum design) rather than assessing the value of only a single component such as storybook reading, story extension activities (Labbo, 1996b), or emergent writing (e.g., Richgels, 1995a).

The overall findings from the reviewed studies (see Englert et al., 1995; Nielsen & Monson, 1996; Sulzby, Branz, & Buhle, 1993) decidedly confirm the recent statement of Labbo and Teale (1998) that "no matter what the age or previous experience of the children, an emergent literacy approach is appropriate" (p. 250). For example, implementing multiple emergent literacy activities over two years, Englert et al. (1995) reported that second-year students in their project outperformed both first-year students and a control group of Project READ children on selected measures of writing, reading comprehension, and metacognitive knowledge. While not attributing students' knowledge gains to any one facet of the program, the authors stressed that the holistic nature of the learning experiences, the teachers' gradual "ownership" of the projects' principles and curriculum, and the sense that a "literate community" was established between students, teachers, and the wider community, were crucial components in making it a success.

In an international application of emergent literacy principles, Kriegler, Ramarumo, Van der Ryst, Van Niekerk, and Winer (1994) describe a 23-week emergent literacy program implemented in 19 nursery schools in rural South Africa, where over half of the adults in the community had received no formal schooling. Despite the fact that the intervention lasted only six months, Kriegler et al. (1994) reported that a treatment group of 21 nursery school children, though eight months younger than a control group, increased in their knowledge of book handling, word recognition, and print conventions over two control groups not participating in the project. Similarly, in Finland, where children normally learn to read following analytic and synthetic phonics approaches, Korkeamaki and Dreher (1995, 1996) have reported the success of an emergent literacy program for kindergarten and primary-grade children.

Contrary to the current controversial stance (see Foorman, Francis, Fletcher, Schatschneider, & Mehta, 1998) that kindergarten children designated as at-risk or primary-grade children identified as having reading difficulties need

primarily structured phonics activities and phonemic awareness training, the research we examined promotes the observation that children with an astounding range of cognitive abilities, physical or language learning complications, environmental circumstances, and prior experience with print (or lack thereof, as the case may be) respond, for the most part, very positively to emergent literacy programs. Key features shared by all of these programs include (a) drawing children in as socially competent partners, (b) allowing them to experiment without duress, (c) providing them with a variety of adult- and peer-mediated dialogue about literature and ways to read and write, and (d) creating any number of opportunities for them to practice their unconventional yet emerging skills.

Future Reflections

In this brief review, we have attempted to present an "aerial" view, so to speak, of the topographical features that compose the field we know as emergent literacy. As in any view, we recognize that ours too is value-laden and shaped by certain assumptions which lead us to see one thing as opposed to another. However, the advantage to educators, we think, of taking ownership of one's own perspective is that it forces us to recognize, understand, and, hopefully, appreciate why others see things differently. Taking a step back from this present work, then, we are struck by the forceful movement in emergent literacy studies toward both complexity and contexualization, yet at the same time, a "balkanization," as it were, of the points of view brought to bear during discussions of this complexity. This is a matter we will address shortly.

Our overall interpretation of the research findings during this past decade is that simple answers to basic questions—(e.g., Is it good to read to children? How do forms of emergent writing change as children develop as writers? What is the role of the home in preparing children for successful literacy learning?) are unlikely to account for the diversity of children's literacy behaviors. Instead, we see the need for both initial research questions and subsequent findings to be increasingly situated within a web of other related questions: Which children? Where? With whom? Under what circumstances? We feel that it is now incumbent upon researchers to define and study literacy in more contextualized frames.

Our review suggests to us, however, that while the last decade has brought more diversity in the posing of research questions, more variety in the populations under investigation, and much greater depth in certain areas of inquiry, a portion of the research community studying young children's literacy growth may still be laboring with limited epistemologies which are unable to account for the evident growing complexity of interacting factors necessary to understand written language acquisition. We would like to close this review with our own perspective on how these tensions between the complexity of the phenomenon under study—emergent literacy, in our case—and economy of research interpretation have affected the nature of early literacy research. Finally, we'd like to offer some suggestions as to how these tensions might be lessened, albeit never resolved. We would like to

frame the following discussion by describing three major crossroads which we feel must be negotiated in order to move the field ahead in the 21st century.

A Theoretical Crossroad

The first crossroad is theoretical. Although over the years models of early literacy acquisition have been posed (cf. Goodman, 1986; Lomax & McGee, 1987; Mason, 1984; Share & Stanovich, 1995; Wells & Chang-Wells, 1992; Whitehurst, Epstein, et al., 1994), none has received very wide acceptance— at least not in comparision to models of adult reading (cf. Stanovich, 1980). However, as complex cognitive, social, and cultural explanations of emergent literacy learning increasingly intersect, the absence of a theoretical model against which these ideas might be tested leaves the field, as pointed out by Mason (1984) some years ago, without direction in explaining individual differences or in designing "what early reading instruction to provide and when to provide it" (p. 532)—if, indeed, it should be provided at all, as Sulzby and Teale (1991, p. 749) mused at the beginning of this decade.

While our perusal of studies revealed ubiquitous references to either Piaget or Vygotsky—and sometimes both—in most of the studies we reviewed, regardless of whether they were outcome-based, process-oriented, or developmental, no one was seriously addressing the question that Teale (1987) raised over ten years ago of "how to deal with the compatible, yet conflicting, theories of Vygotsky and Piaget when it comes to literacy development" (p. 67). In our view, passing references to the "zone of proximal development" or parenthetical citations to the standard works of either theorist are not sufficient grounds upon which to launch an investigation with any theoretical integrity. Nor are mere connections to previous investigations on similar topics which may themselves be theoretically suspect.

Thus, in our view, serious theoretical work remains to be done. We concur wholeheartedly with the statement of McGee and Purcell-Gates (1997) that "as researchers we need to focus on articulating a theoretical model [or models, we might add] that synthesizes what our findings have revealed to this point" (p. 317). We believe that, whether these models are refinements of those already in existence or to be built anew, researchers in emergent literacy must pay closer attention to deeper connections between sociocognitive studies, which seem especially promising for adding new insights into issues of variation and similarity in children's learning patterns, and sociocultural perspectives, which situate emergent literacy within the social and cultural practices of classrooms and families. While we welcome the diversity of viewpoints that we see in the past decade's research, at the same time, it remains fundamentally important that researchers look for theoretical and methodological connections between perspectives. We also suggest that researchers, in their individual investigations, avoid the seductive tendency of our own editorial guidelines toward proliferating, parenthetical citations, spending more space discussing only the studies most germane to their work and carefully delineating the constructs of what they are examining and how their approach to inquiry offers promise in explaining or describing the topic under study.

A Definitional Crossroad

The second crossroad is definitional. The great diversity of questions studied (and proposed for study) under the aegis of emergent literacy in the 1990s is a testament to the acceptance of this construct in the field of literacy

research. At the same time, this diversity raises questions concerning the meaning and usefulness of the term itself. As we have read and discussed among ourselves and our colleagues the broad array of studies reviewed in this chapter, we've found one of the most troubling issues to be deciding whether there is, or should be, a unified theoretical, methodological, or curricular perspective underlying emergent literacy research.

Our analyses suggest that emergent literacy represents an identifiable, though changing, theoretical stance. As in the 1980s, key tenets of an emergent literacy perspective today include (a) an optimistic view of children's ability to learn and their forward trajectory from unconventional to conventional literacy; (b) a positive view of children as constructors of their own literacy knowledge; and (c) a belief that emergent literacy learning occurs "informally" (following Teale's [1978] definition of this term) in holistic, meaning-driven reading and writing events. Simultaneously, however, each of these tenets has been recast in some ways as the field has matured.

First of all, while the value of emergent literacy behaviors and their relation to later conventional reading and writing continues to be assumed in many developmental and process-oriented studies, a number of researchers are now designing investigations that attempt to empirically document the impact of early unconventional literacy behaviors on later reading and writing—a trend that nearly every reviewer in this field over the last 15 years has remarked should happen. We would suggest, though, that in the pursuit to "verify" the importance of these nascent abilities, present and future researchers would do well to keep in mind the caution about "conventionality" laid out succinctly by Mason and Allen (1986) a number of years ago:

> Children's movement into reading is not marked by a clear boundary between readers and nonreaders. Very young children may know where there is something to read but be unable to read it. Somewhat older children may be able to read isolated words in context, but not in isolation. Still older children may be able to read isolated words by storing partial letter-sound associations in memory, but they may not be able to read isolated words by decoding the letters into sounds. Which are we to consider readers and which are nonreaders? ... Reading acquisition is better conceptualized as a developmental continuum rather than the all-or-none phenomenon ... (p. 18)

The point we would like to reiterate here is that children can hold both unconventional and conventional notions about reading and writing at the same time. If this is the case, then it becomes extremely difficult to "verify" that certain early behaviors predict others (or are "orthogonal" to them) since they are inextricably connected, in the first place, developmentally. This point was made much more powerfully by Vygotsky (1987) over 60 years ago in response to psychologists attempting to bifurcate language into either its acoustic or semantic properties in order to emphasize one over the other. In the case of emergent literacy research, scholars working within paradigms supporting positivistic assumptions of objective verification or, as is more often the case, postpositivist notions of confirmability, cannot verify or confirm if fragmentation is the result.

A related point in this definitional recasting is that, while emergent literacy research in the 1990s remains primarily "logocentric", we believe there is

much to be gained from defining literacy more broadly to include both linguistic and nonlinguistic forms of communication. We concur with Kress's (1997) prediction that children will increasingly be exposed to communication tools and situations that are multimodal rather than exclusively linguistic. Since emergent writers have, from the beginning, been shown to combine writing, drawing, talk, and gesture, it seems that future emergent literacy research is already poised to investigate this broader view of literacy and literacy learning. The exploration of the uniqueness of and similarities between different semiotic systems is paramount if comprehensive models of literacy are ever to be constructed, particularly when considering the research in storybook reading with the hearing- and visually-impaired and other children with out-of-the-ordinary learning capabilities.

A Methodological Crossroad

A final crossroad we see is methodological. As theoretical perspectives and definitions of literacy change, so must research questions, designs, and reporting. First, as we adopt a more contextualized view of literacy, researchers can no longer assume generalizability (or "transferability" of findings) for all students. This suggests that we must seek a broader array of research participants so that a wider range of social, political, economic, and cultural understandings of literacy are represented in the literature. However, simple dichotomous comparisions between "low vs. high," "disadvantaged vs. advantaged," "inexperienced vs. experienced," or "unsuccessful vs. successful" are not illuminative if the purpose is simply to point out who has the knowledge and who does not. Rather, we believe that studies are needed that make a concerted attempt to reveal the strengths, factors of resilience, and ways in which students from underrepresented populations can be successful in school. Unlike current diagnoses of reading disability (cf. Semrud-Clikeman, 1996), which continue to put the onus of failure upon individuals' inadequacies, absolving instructional inequities, we would like to see more insightful recommendations for early literacy instruction that consider population-specific characteristics (cf. Moll, 1992, and the concept of "funds of knowledge") and the realization that the institution of schooling, as has been previously noted (see Serpell, 1997), bears more than a little responsibility for children's success or failure.

Secondly, as theoretical perspectives, topics of inquiry, and descriptive category systems proliferate, we believe there is much to be gained by careful discussion of conceptual and methodological connections between studies. It is customary for researchers to justify the significance of their research questions in relation to the findings (or lack thereof) in previous research. However, these justifications must go far beyond the standard formula of setting up a few (or many) studies as "straw men," and then adding the frequent, but worn out phrase, "little is known, then, about . . ." since, as we found in this review, the latter statement is seldom accurate. We therefore urge researchers (and the publishers of their work) to be assiduous in providing more complete, comparative analyses of theory, methods, and findings in their research reporting.

Finally, we believe that if research into emergent literacy abilities is ever going to converge upon plausible syntheses of the "whole picture" of emergent literacy (cf. McGee & Purcell-Gates, 1997, p. 315), then up-front discussions about differing epistemological perspectives must happen. As Cunningham and Fitzgerald (1996) observed, "If any agreement between camps is possible, it may result only from epistemological discussions rather

than discussions of reading theory or practice" (p. 39). From our review, one barrier we see being constructed rapidly in this field actually emanates from researchers following suggestions in the literature to incorporate mixed designs in approaching emergent literacy topics. As we noted earlier, however, outcome-based investigations adhere to assumptions that normally conflict with the central tenets of what we understand to represent an emergent literacy perspective. Even so, the problem we see is not so much rooted in being "experimental" (see, for example, the volume by Neuman & McCormick, 1995, on single-subject experimental research in literacy) or attempting to find plausible connections between elements of early and late literacy experiences, but in the inappropriate use of early literacy assessment tools without full appreciation of the developmental properties of the constructs underlying them or the possible differences in performance which may be introduced by alternative versions of the same index.

As we suggested earlier, it is important for researchers to heed Sulzby's (1994) admonition that the "stage-like" appearance of emergent storybook reading is deceptive. Additionally, environmental print measures vary from collecting children's responses in actual community contexts with intact print artifacts to drawn objects on index cards or photographs (cf. Smith, 1997). However, given the extensive literature on the complexity of children's learning about two-dimensional space (Willows & Houghton, 1987) in various illustrative formats, we do not see that the above tasks are simply interchangeable. This situation may, in part, explain the current empirical disconnect between Goodman's (1986) theoretical premise of the importance of print in situational contexts to young children's literacy learning and the failure of outcome-based studies to conclusively verify it.

What we are primarily asking emergent literacy researchers to understand and what Cunningham and Fitzgerald (1996, p. 55) have urged the larger reading community to consider much more seriously is the epistemological parameters of their work (cf. also Mosenthal, 1995). What constitutes or counts as knowledge? Where is knowledge located? How is knowledge attained? Further research maturity in the field of emergent literacy studies will come only, we think, by grappling continuously—and honestly—with these questions.

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About CIERA

The Center for the Improvement of Early Reading Achievement (CIERA) is the national center for research on early reading and represents a consortium of educators in five universities (University of Michigan, University of Virginia, and Michigan State University with University of Southern California and University of Minnesota), teacher educators, teachers, publishers of texts, tests, and technology, professional organizations, and schools and school districts across the United States. CIERA is supported under the Educational Research and Development Centers Program, PR/Award Number R305R70004, as administered by the Office of Educational Research and Improvement, U.S. Department of Education.

Mission. CIERA's mission is to improve the reading achievement of America's children by generating and disseminating theoretical, empirical, and practical solutions to persistent problems in the learning and teaching of beginning reading.

CIERA Research Model

The model that underlies CIERA's efforts acknowledges many influences on children's reading acquisition. The multiple influences on children's early reading acquisition can be represented in three successive layers, each yielding an area of inquiry of the CIERA scope of work. These three areas of inquiry each present a set of persistent problems in the learning and teaching of beginning reading:

CIERA INQUIRY 1
Readers and Texts

Characteristics of readers and texts and their relationship to early reading achievement. What are the characteristics of readers and texts that have the greatest influence on early success in reading? How can children's existing knowledge and classroom environments enhance the factors that make for success?

CIERA INQUIRY 2
Home and School

Home and school effects on early reading achievment. How do the contexts of homes, communities, classrooms, and schools support high levels of reading achievement among primary-level children? How can these contexts be enhanced to ensure high levels of reading achievement for all children?

CIERA INQUIRY 3
Policy and Profession

Policy and professional effects on early reading achievement. How can new teachers be initiated into the profession and experienced teachers be provided with the knowledge and dispositions to teach young children to read well? How do policies at all levels support or detract from providing all children with access to high levels of reading instruction?

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